

three-fourths of a mile, was covered with a torrent of water 8 feet deep, in places. Several small houses were carried out to sea, larger houses were swept from their foundations, and more than 200 persons were drowned."

Table of excessive precipitation, January, 1891.

State and station.	Monthly rainfall to inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
<i>Alabama.</i>	<i>Inches.</i>	<i>Inches.</i>		<i>Inches.</i>	<i>h. m.</i>	
Mountain Home	10.06					
<i>Alaska.</i>						
Juneau	20.51	2.50	8			
<i>Arkansas.</i>						
Brinkley		2.80	30, 31			
Forrest City		2.80	30, 31			
Fulton		3.97	31			
Helena (1)		2.50	31			
Helena (2)		3.55	31			
Little Rock		3.57	30, 31			
Lonoke		2.62	30, 31			
Osceola		3.42	30, 31			
<i>Connecticut.</i>						
Birmingham	10.16					
Southington	10.51	2.90	11, 12			
Waterbury	10.06					
<i>Iowa.</i>						
Clinton		3.03	1			
<i>Kentucky.</i>						
Bowling Green		3.50	31			
Canton		3.50	31			
<i>Louisiana.</i>						
Abbeville	11.45	4.40	8			
Alexandria	10.03					
Amité City		3.15	8			
Baton Rouge		3.12	8			
Cheneyville	13.60	2.50	8			
Do		5.40	29			
Clinton	10.57	2.80	8			
Coushatta (1)		3.00	8			
Crowley	12.18	3.50	1			
Grand Coteau	10.43	3.80	7, 8			
Do		2.76	20, 21			
Do		2.60	27, 28			
Houma		3.01	27, 28			
Jeannerette		5.00	8			
Lake Charles	13.20	5.00	8			
Do		3.80	27			
Marksville	11.34	3.78	28, 29			
Melville	12.30					
New Iberia		4.05	8			
North Louisiana Experiment Station		3.12	8			
Paincourtville		3.07	7, 8			
Plaquemine	11.73	4.65	8, 9			
Shell Beach	11.02	3.50	7			
Do		3.25	27			
Winnabrough		2.50	31			
<i>Maine.</i>						
Farmington		2.51	11, 12			
<i>Massachusetts.</i>						
Long Plain	10.08					
New Bedford (1)		3.40	17, 18			
Plymouth		2.95	19			
<i>Mississippi.</i>						
Bay Saint Louis	10.11	2.60	8			
Brookhaven	10.16	2.79	28, 29			
Canton	10.06					
Edwards	10.38					
Enterprise		2.63	28			
Fayette	12.55	2.92	28, 29			
Kosciusko	11.00	4.40	8			
Do		3.10	10			
Moss Point		2.85	8			
Summit	11.66	2.50	21			
Washington	10.64					
<i>Nebraska.</i>						
Fort Sydney*		3.75†	27, 28			
<i>New Jersey.</i>						
South Orange	10.55	3.10	24, 25			
<i>New York.</i>						
Boyd's Corners		2.61	22			
Minnewaska		2.70	11, 12			
Pawling		2.56	22			
Rondout	11.38					
<i>North Carolina.</i>						
Hatteras		2.89	10, 11			
Highlands		2.70	1			
Soapstone Mount		2.50	21			
Wilmington		3.22	10, 11	1.05	1 00	11
<i>Oregon.</i>						
Gardiner	10.84					
<i>Tennessee.</i>						
Clarksville		3.68	31			
Covington (1)		4.56	30, 31			
Franklin			1.25	1 00		31
Johnsonville		2.50	31			
Memphis		3.96	30, 31			
Trenton		4.17	30, 31			
Union City		3.50	31			
<i>Texas.</i>						
Brazoria	10.88	2.50	28			
Corsicana (1)		3.02	7, 8			
Houston	13.11	5.89	7, 8			
Do		2.86	26, 27			

Table of excessive precipitation—Continued.

State and station.	Monthly rainfall to inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
<i>Texas—Continued.</i>	<i>Inches.</i>	<i>Inches.</i>		<i>Inches.</i>	<i>h. m.</i>	
Huntsville	10.06	3.50	8			
Palestine	11.11	4.84	7			
Rio Grande				1.00	0 50	9
<i>Washington.</i>						
Neah Bay	15.93	3.10	19			
Tatoosh Island	11.91					

Received too late to be used in general discussion for January, 1891.

<i>New York.</i>						
West Point		3.00	11-12			

Received too late for publication in December, 1890.

<i>California.</i>						
Upper Mattole		3.44	3			

* All snow, and probably too great owing to drifts.

MAXIMUM RAINFALL IN ONE HOUR OR LESS.

The following table is a record of the heaviest rainfall during January, 1891, for periods of five and ten minutes and one hour, as reported by regular stations of the Signal Service furnished with self-registering gauges:

Station.	Maximum fall in—					
	5 min.	Date.	10 min.	Date.	1 hour.	Date.
	<i>Inch.</i>		<i>Inch.</i>		<i>Inch.</i>	
Bismarck, N. Dak.	0.05	22	0.08	22	0.26	22
Boston, Mass.	0.02	29	0.04	29	0.10	29
Buffalo, N. Y.	0.03	31	0.05	31	0.20	31
Cincinnati, Ohio	0.05	1	0.06	1	0.25	1
Chicago, Ill.	0.01	2	0.02	2	0.10	2
Cleveland, Ohio						
Denver, Colo.	0.01	1	0.02	1	0.08	1
Detroit, Mich.						
Dodge City, Kans.						
Duluth, Minn.						
Eastport, Me.	0.02	12	0.03	12	0.17	12
Galveston, Tex.	0.18	14	0.35	14	0.77	14
Jupiter, Fla.	0.15	11	0.20	11	0.70	11
Key West, Fla.	0.25	22	0.33	22	0.75	22
Marquette, Mich.						
Memphis, Tenn.	0.06	2	0.11	2	0.23	22
New York City	0.10	27	0.15	27	0.45	27
New Orleans, La.	0.12	22	0.15	22	0.45	22
Norfolk, Va.	0.02	24	0.04	24	0.16	24
Philadelphia, Pa.	0.03	2	0.06	2	0.30	2
Philadelphia Water Works	0.03	3	0.05	3	0.25	3
Portland, Oregon	0.17	1	0.21	1	0.46	1
Saint Louis, Mo.						
Saint Paul, Minn.						
San Diego, Cal.	0.05	28	0.10	28	0.30	28
San Francisco, Cal.	0.08	4	0.10	4	0.26	4
Savannah, Ga.	0.05	11	0.07	11	0.20	11
Washington City	0.10	22	0.15	22	0.35	22
Wilmington, N. C.	0.15	11	0.30	11	1.05	11

* Not sufficient to register. † Rain-gauge not working. ‡ Less than .05 in 1 hour. § No record on account of snow.

SNOW (in inches and tenths).

Chart V shows the depth of snowfall reported for the month. Snowfall to exceed 50.0 was reported at Cumbres and Fort Lewis, Colo., and Alta, Utah; to exceed 40.0 at Calais, Me., Somerset, Pa., and Marquette, Mich.; to exceed 30.0 at Stratford, Vt., in central Vt., south-central Pa., at mountain stations in Colo., and at Nogal, N. Mex.; to exceed 20.0 over the greater part of Me. and N. H., south and north Vt., at several stations in Mass., west Conn., central and east N. Y., north-central Va., northeast Pa., upper and north lower Mich., at Springvale, Kans., Embarrass, Wis., northwest N. Mex., west-central Idaho, and at Cisco, Cal.; and to exceed 10.0 in New England, save on the south coast, in N. Y., a greater part of Pa., and thence southward to north-central Va., in west N. C., south-central Tenn., over the east part of the middle plateau, and north N. Mex., thence eastward over south Mo., and northeastward over the north part of the upper lake region,

from east-central Oregon over north Idaho, in the Chiri Calua Mountains, Ariz., and in Nevada, Placer, and Siskiyou counties, Cal. On the immediate Atlantic coast snow fell as far south as south N. J.; in the Atlantic coast states to Atlanta, Ga.; in the east Gulf states to north Ala. and central Miss.; in the west Gulf states to central Tex. in about latitude 30°; in the plateau region to extreme southeast Ariz.; and in the mountain regions of north Cal., Oregon, and Wash.

The first snow of the season was reported as follows: 1st, Fort Simcoe, Wash. 2d, Nashville, Tenn. 5th, East Portland, Oregon; Waterville, Wash. 6th, Chloride, Ariz. 7th, San Carlos, Ariz.; mountains near Roseburgh, Oregon. 8th, Bisbee, Ariz.; Memphis, Tenn.; Fort Hancock, Tex.; Walla Walla, Wash. 9th, Abilene, El Paso, Berlin, Brownwood, Epworth, Childress, Fort Bliss, Graham, Longview, and Wichita Falls, Tex. 10th, Brady, Burnet, Durham, Grapevine, Mountain Spring, and Weatherford, Tex. 12th, University, Miss.; Austin, Tex. 13th, Valley Head, Ala. 15th, Double Springs and Tusculumbia, Ala. 16th, Temple, Tex. 19th, Fort Davis, Tex. 23d, Farmerville, La.; Brenham, Duval, La Grange, Menardville, and Round Rock, Tex. 24th, Agricultural College, Louisville, Palo Alto, and Water Valley, Miss.

On the 1st a heavy snow storm and high wind prevailed over north Missouri and Kansas, and railroad traffic was interrupted by drifted snow. At Horton, Kans., the snow drifted 4.0 to 7.0 deep in places. At Leavenworth, Kans., but few railroad trains reached the city, and telephone wires were damaged to the extent of about \$450. At Topeka, Kans., no trains arrived from the west. On the 7th a snow storm prevailed over east Colorado, north New Mexico, west Nebraska, and Kansas, and extended over Missouri and Illinois on the 8th. On the 9th and 10th a snow storm prevailed over west Texas and Indian Territory. On the 11th and 12th a heavy snow storm was reported in Quebec. On the 24th one of the heaviest snow storms in years prevailed in Tennessee, and at stations in the middle part of the state a depth of 12.0 was estimated. A notable feature of this storm at Nashville, Tenn., was the size of the snowflakes, many of which were as large as a silver dollar and some nearly as large as a saucer. On the 24th and 25th a snow storm extended over the middle Atlantic states and New England, causing great damage to electric wires. On the 27th and 28th a heavy snow storm prevailed in the middle Missouri valley.

The following is a record of the heaviest snowfall reported for January in the several states and territories from 1882 to 1891, inclusive: 1882, District of Columbia, 11.5, in West Washington; New Hampshire, 41.5, at Mount Washington. 1884, Delaware, 14, at Saint George's; Montana, 35.4, at Helena; New Jersey, 26.2, at Little Egg Harbor; New York, 60, at Oswego; North Carolina, 10, at Ogreeta; Ohio, 29, at Jacksonborough; Tennessee, 22.5, near Smithville; Virginia, 35, at Lynchburgh; West Virginia, 27, at Wellsburg. 1885, Indiana, 32.5, at La Grange; Kansas, 17.8, at Fort Scott. 1886, Colorado, 26.5, at Pike's Peak; Illinois, 40.5, at Rockford; Iowa, 37, at Des Moines; Kentucky, 18.5, at Penrod; Maryland, 16.5, at Fallston; Minnesota, 56, at Winona; Missouri, 18, at Pierce City; North Dakota, 29.5, at Richardton; Rhode Island, 21.4, at Pawtucket; Wisconsin, 51.2, at Milwaukee. 1887, Massachusetts, 40, at Fall River; South Dakota, 35.8, at Deadwood. 1888, Arizona, 13, at Prescott; Arkansas, 11.1, at Little Rock; Connecticut, 25.8, at New Hartford; Louisiana, 7 to 8, at Coushatta; Maine, 59.4, at Lewiston; Michigan, 67.4, at Bear Lake; Pennsylvania, 41.3, at Eagle's Mere; Vermont, 53.6, at Northfield. 1889, Alabama, 2, at Bermuda; Georgia, 1, at Duck; Indian Territory, 4.5, at Fort Gibson; Mississippi, 0.2, at Pontotoc and Palo Alto; Nebraska, 45, at Burner's Ranch; South Carolina, trace, at several stations; Texas, 8, at Decatur. 1890, California, 229, at Cisco; Idaho, 73, at Era; Nevada, 111, at Ruby Hill; New Mexico, 14.5, at Fort Wingate; Oregon, 68.6, at Veronia; Utah, 38, at Corinne; Washington, 39, at Fort Spokane; Wyoming, 52.5, at Camp Sheridan.

Snowfall of 10.0, or more, was reported as follows, and in states and territories where the maximum depth was below that amount the station reporting the greatest is given: *Alabama*.—Double Springs, 1.1. *Arizona*.—Chiri Calua Mountains, 15; Show Low, 11. *Arkansas*.—Lead Hill, 13.8. *California*.—Cisco, 22; Emigrant Gap, 17; Summit, 15; Boca, 12.5; Truckee, 12.2. *Colorado*.—Cumbres, 57; Fort Lewis, 51; Palmer Lake and Stamford, 37; San Luis, 36.5; Climax, 36; Smoky Hill Mine, 34; Saint Cloud, 32; Waterville, 28; Eagle Farm, 26; Livermore, 25.5; Box Elder, 25; Alvord, 25.3; Moraine, 23.8; Greenhorn, 23.4; Rico, 22.8; Breckenridge and T. S. Ranch, 22; La Porte, 21.9; Fort Collins, 21.7; Elkhorn, 21.5; Castle Rock, 20; Pueblo, 18.5; Chromo, 18.4; Apishapa, Laird, and Wray, 18; Cañon City, 17.5; Stunner, 17.3; Husted, 17.2; Denver and Le Roy, 17; Idaho Springs, 16; Abbott, 15.6; Yuma, 15.5; Bennet and Kirk, 15; Beaver Creek, 14.6; Fort Logan, 14.2; Amherst and Burlington, 14; Pagosa Springs and Rocky Ford, 13; Hugo, 12.5; Brush, Byers, Monte Vista, and Sedgewick, 11; Magnolia, 10.8; Como (near), 10.5; Red Cliff, 10.2; Deer Trail, Sanborn, and Watkins, 10. *Connecticut*.—New Hartford (1), 24.9; Falls Village, 21; Southington and Waterbury, 19; Canton and New Hartford (2), 18; West Simsbury, 16; Hartford (1), 13.8; Hartford (2), 13; Middletown, 12; Mansfield, 11; Birmingham, 10. *Delaware*.—Dover, 2; *District of Columbia*.—Washington City, 6.1. *Georgia*.—Atlanta, 0.5. *Idaho*.—Ruthburg, 20.1; American Falls, 18; Mullan, 16. *Illinois*.—Jordans Grove, 10.2; Mascoutah, 10. *Indiana*.—De Gonia Springs, 5.2. *Indian Territory*.—Fort Supply, 18.7. *Iowa*.—Concord, 17; Sioux City, 16.4; Osage and Storm Lake, 16; West Bend, 15.5; Alta (1 and 2), 14; Manson, 13; Larabee, 12.5; Bancroft and Cresco, 11; *Kansas*.—Springvale, 25; Havensville, 20.5; McAllaster, 17; Hutchinson, 15.7; Wakefield, 15; Fremont and Yates Centre, 14.5; Kingman, 14; Spearville, 13.2; Allison, Gove City, Manhattan (3), and Sharon Springs, 13; Grainfield, 12.8; Halstead and Norton, 12.5; Bucklin, Cunningham, and Wa Keeney, 12; Salina, Shields, and Tribune, 11; Buffalo Park, 10.8; Downs, Grinnell, Horton, La Harpe, and Marmaton, 10.5; Manhattan (2) and Plainville, 10. *Kentucky*.—Harrodsburgh, 4.8. *Maine*.—Calais, 40; Orono, 33; Lewiston, 28; Kent's Hill, 25; Portland and Belfast, 24; Bar Harbor, 23; Eastport, 20.4; Cornish, 19.5; Farmington, 16; Fairfield, 14; Fort Preble, 13.

Maryland.—Mount Saint Mary's, 12. *Massachusetts*.—Worcester (1), 28.1; Fitchburgh (1), Mount Nonotuck, and Springfield Armory, 24; North Billerica, 23.5; Groton (1), 23; Fitchburgh (2), 22; Ludlow (2), 21; Gilbertville and Lawrence, 20; Westborough, 19.8; Amherst Experimental Station (1), Ludlow (1), and Newburyport (1), 19; Amherst, 18.5; Amherst Experimental Station (2), 18; Leominster, 17; Kendall Green and Salem (2), 16; Blue Hill and Milton, 15; Boston, 14.8; South Hingham, 14; Andover and Randolph, 13; Wakefield, 12; Chesnut Hill, 11; Fall River, 10.5; Mansfield and Taunton (2), 10. *Michigan*.—Marquette, 42.4; Harbor Springs, 38.5; Roscommon, 34.4; Calumet, 33; Atlantic, 32; Gulliver Lake, 31.1; Rockland, 27.2; Caldwell and Manton, 27; Ivan, 26; Saint Ignace, 24.5; Bear Lake, 23.3; Charlevoix, 23.2; Alpena, 23.1; Cheboygan, 22.5; Northport, 21.5; Lathrop, 20.5; Sault de Ste. Marie, 19.3; Hillman, 18; Fort Mackinac, 17.2; Weldon Creek, 17; Fort Brady, 16; Gayling, 15.6; Hillsdale, 13.4; West Branch, 12; Harrisville, 11.1; Crystal Falls, 10.5. *Minnesota*.—Saint Charles, 18.5; Faribault, 18; Grand Meadow, 17; Rolling Green, 16.9; Red Wing, 16.5; Alma City, 15.4; Mankato, 13.9; Sheldon, 12.7; Farmington, 10.3. *Mississippi*.—Holly Springs (1) and Water Valley, 1.5. *Missouri*.—Centerville, 17; Oregon, 13.6; Fortescue, 12; Platte River, 11.8; Springfield, Gordonville, and Lebanon, 11. *Montana*.—Virginia City, 9. *Nebraska*.—Fort Sidney, 56.23; West Point, 25; David City and Kimball, 21; Genoa, 20.4; Palmer, 20; West Hill, 19.5; Ravenna, 19; Gering, Grand Island, and Imperial, 18; Alliance, 16.5; Hay Springs, 15.7; York, 15.5; Marquette (1), 15.1; Grant, 15; Harvard, 12.8; Tekamah, 12; De Soto, 11.8; Minden, 11.2; Fort Robinson and Lexington, 11; Fremont,

10. *Nevada*.—Elko, 6.5. *New Hampshire*.—Manchester, 25.8; Nashua, 25.5; Belmont, 25.1; West Milan, 23; Berlin Mills, Concord, and North Conway, 22; Littleton, 21; Newton and Plymouth, 20; Antrim and Hanover (1), 17; Lake Village, 15.3; Hanover, (2), 15; East Canterbury, 14.6; Stratford, 14; Wolfsborough, 11.1; Walpole, 11. *New Jersey*.—Freehold, 12; South Orange, 10.2. *New Mexico*.—Nogal, 32; Cuba, 30; Chama, 24; Embudo, 18; Fort Marcy, 16.5; Monero, 13.4; Los Lunas, 13; Santa Fé, 12.3; Springer, 11.5; Antelope Springs, 11.3; Gallinas Spring, 11; Bernalillo, 10.

New York.—Brookfield, 36; Utica, 34; Cooperstown, 28.2; Quaker Street, 26.5; Albany, 26; New Lisbon, 25.3; Boyd's Corners and Middleburgh, 25; Rondout, 24; Oxford, 23.4; Wappinger Falls, 23; Deposit, 22.5; Honeymead Brook, 21.9; Schodack Depot, 21; Ampersand and Liberty, 20; Malone, 19.5; Turin, 18.4; Middletown, 17.5; Poughkeepsie and Southeast Reservoir, 16.8; Rochester, 16.1; Watervliet Arsenal, 16; Easton, 15.5; Galway, 15.1; North Hammond, 15; Constableville, 13.9; Lyon Mountain (2), De Kalb Junction, and Ogdensburgh, 13.5; Syracuse, 13; White Plains, 12.8; Binghamton and Newark Valley, 12.5; Number Four, 12.4; Fort Schuyler and Canton, 12.2; New York City, 11.9; Perry City and Plattsburgh Barracks, 11.1; Queensbury, 11; Oswego, 10.6; Humphrey, 10.5. *North Carolina*.—Asheville, 13; Hendersonville, 11. *North Dakota*.—Fort Pembina, 8.8. *Ohio*.—Findlay, 15.3; Greenville, 15; Ashland, 11.5; Oberlin, 11; Cleveland and North Lewisburgh, 10.5. *Oklahoma Territory*.—Oklahoma City, 10. *Oregon*.—Joseph, 13.8; Baker City, 16. *Pennsylvania*.—Somerset, 40.5; Blue Knob, 34; Salem Corners, 30.1; Blooming Grove, 23; Girardville, 22; Honesdale, 20; Eagle's Mere, 19; Dyberry, 17; Huntingdon, 15.2; Charlesville, McConnellsburgh, and Wilkes Barre, 15; State College, 13.8; Catawissa and Le Roy, 13; Wysox, 12.5; Lewisburgh and Lock Haven, 12; Kilmer, 11.9; Meshoppen and South Eaton, 11; Quakertown, 10. *Rhode Island*.—Pawtucket, 13; Lonsdale, 12; Kingston (1), 10.2. *South Carolina*.—Spartanburgh (1), trace. *South Dakota*.—Oelrichs, 13.5. *Tennessee*.—Lewisburgh and Sharps, 12; Franklin, 11. *Texas*.—Childress, 12. *Utah*.—Alta, 58; Nephi and Parowan, 18; Levan, 17.3; Mount Pleasant, 16; Ogden (2), 14.5; Snowville, 13.8; Promontory, 13; Provo City, 10.5. *Vermont*.—Strafford, 31; East Berkshire, 25.9; Chelsea, 24; Burlington, 23; Lunenburg, 21; Vernon, 20; Brattleborough (1) and Cornwall, 18; Hartland, 15; Jacksonville, 14; Northfield, 12. *Virginia*.—Dale Enterprise, 21.2; Staunton, 20; Bolar and Woodstock, 12.5. *Washington*.—Spokane Falls, 3.4. *West Virginia*.—Ella, 3.2. *Wisconsin*.—Embarrass, 21; Peshtigo, 19.9; Green Bay, 19.7; Greenwood and Medford (2), 18.5; Chippewa Falls and Weston, 17.5; La Crosse, 17.1; Oconto,

17; Amherst and Menomonie, 16; De Pere, Neillsville, and Portage, 15; Butternut, 14.5; Plover, 14; Bayfield, 13; Centralia and Rhinelander, 12; Hayward and Manitowoc, 11.5. *Wyoming*.—Cheyenne, 20; Camp Pilot Butte, 19.4; Fort Washakie, 19.1; Wheatland, 13; Fort D. A. Russell, 12; Fort McKinney, 11.6; Fort Fetterman, 10.

DEPTH OF SNOW ON GROUND AT CLOSE OF MONTH.

Chart IV shows the depth of snow reported on the ground at the close of the month. The greatest depth of snow, 60.0, was reported at Cumbres, Colo.; it exceeded 30.0 in north and south Vt., central N. Y., south-central Pa., and central Colo.; 20.0 in parts of N. H., Vt., northeast N. Y., at elevated stations in Pa., and in north upper Mich.; and exceeded 10.0 over a greater part of New England, N. Y., north Pa., from upper Mich. southeastward to east-central Nebr., in west Nebr., in south Colo. and the adjoining part of N. Mex., in central Utah, and west-central Idaho. Trace of snowfall was reported in north Va., extreme northwest S. C., east-central Ill., central Mo., in the plateau region to south-central Ariz., in central Nev., extreme north-central Cal., and northeast Oregon.

HAIL.

Hail was reported as follows: 1st, Ark. 5th, Cal. 6th, Cal., Wash. 7th, Tex. 8th, Ala., Miss., Tenn. 9th, Ky., N. C., Tenn. 11th, Tenn. 13th, Tenn. 15th, Miss. 17th, N. C., Pa. 23d, Tex. 24th, Fla., Ga., La., Nev., N. C. 26th, Wash. 27th, R. I. 28th, Ky., Tex. 29th, Ind., La., Miss., N. Y., Ohio, Pa. 30th, Oregon, Tex., Wash. 31st, Md., Miss., N. J., Pa., Tenn.

SLEET.

Description of the more severe sleet storms of the month is given under "Local storms." Sleet was reported as follows: 1st, Ind., Iowa, Kans., Mass., Mich., N. J., N. Y., Pa., Wis. 2d, Mass., N. Y., Ohio, Pa. 3d, Mass. 5th, Mo. 6th, Cal., Kans., Nev., Okla. T. 7th, Miss., Mo., Ohio, S. Dak. 8th, Ariz., Ga., Miss., S. C., Tenn. 9th, Ill., Ind., Ky., Miss., N. C., Ohio, S. C., Tenn. 10th, Ala., Ky., Miss. 11th, Ala., Ill., Me., Mass., N. J., N. Y., Ohio, Tenn. 12th, N. Y., Ohio. 13th, Ariz., Tenn. 14th, Ark., La., Mich., Tex. 15th, La., Miss., Tex., Wash. 16th, Ala., Wis. 17th, Conn., Me., Mass., Mich., N. J., N. Y., Ohio, Pa. 18th, Me., Mass., N. J., Va. 19th, Minn., N. Mex. 20th, Iowa, N. J., N. Mex. 21st, Ind., Iowa, Ohio, Tenn., Wis. 22d, Ill., Iowa, Ohio, S. Dak., Tenn. 23d, Ind. T., Iowa, Kans. 24th, Md., Miss., N. C., S. C., S. Dak. 25th, Idaho, Md., Mass., N. J., Wis. 26th, Nebr., S. Dak. 27th, Iowa, Kans. 28th, Ill., Iowa, Kans., Nebr., N. Y., Ohio, Wis. 29th, Ariz., Idaho, Ind., Me., Mich., N. Y., Ohio, Okla. T., Tex., Wis. 30th, Ariz., Ark., Mich., Nebr., Okla. T. 31st, Iowa, Md., Mass., Mich., Miss., N. J., N. Y., Ohio, Utah, Wash.

WINDS.

The prevailing winds during January, 1891, are shown on Chart II by arrows flying with the wind. In New England, the middle Atlantic and east Gulf states, the extreme northwest, the Missouri Valley, the southern plateau, and on the south Pacific coast the winds were generally from west to north; in the south Atlantic states, the lower lake region, the upper Mississippi valley, and on the northeast and middle-eastern slopes of the Rocky Mountains, from southwest to northwest; over the Florida Peninsula, from the northwest, except at Key West, northeast; in the west Gulf states and over the middle plateau, from northwest to northeast; in the Rio Grande Valley, from north to northeast; in the Ohio Valley, from south to west; on the southeast slope of the Rocky Mountains and on the middle Pacific coast, from northwest to north; over the northern plateau, from south to southwest; on the middle Pacific coast, from east to south; and in Tennessee and the upper lake region, variable.

HIGH WINDS (in miles per hour).

Wind velocities of 50 miles, or more, per hour were reported at regular stations of the Signal Service, as follows: 1st, 51, nw., at Chicago, Ill.; 60, sw., at Lexington, Ky.; 50, n., at Milwaukee, Wis. 2d, 64, se., at Fort Canby, Wash.; 54, ne., at Chicago, Ill. 4th, 54, e., at Fort Canby, Wash. 5th, 60, e., at Fort Canby, Wash. 12th, 58, sw., at Block Island, R. I.; 72, w., at Wood's Holl, Mass. 13th, 59, sw., at Buffalo, N. Y.; 50, w., at Red Wing, Minn. 15th, 70, se., at Fort Canby, Wash. 16th, 60, se., at Fort Canby, Wash. 17th, 57, s., at Fort Canby, Wash. 21st, 50, sw., at Pensacola, Fla. 22d, 60, sw., at Wood's Holl, Mass.; 50, se., at Portland, Me.; 54, se., at New London, Conn.; 54, sw., at Southport, N. C. 25th, 54, nw., at Wood's Holl, Mass.; 50, n., at Nantucket, Mass.; 72, ne., at Block Island, R. I.; 54, nw., at Atlantic City, N. J.; 52, w., at Hatteras, N. C. 29th, 52, w., at Chicago, Ill. 30th, 52, nw., at Wood's Holl, Mass.